

ABSTRACT

A method of minimizing oil consumption in a gas turbine engine, by avoiding reliance on air intake into the engine oil circuit for bearing chamber oil sealing purposes. The engine has an oil circuit with at least one bearing supporting at least one engine shaft at a support point along a shaft axis, at least one bearing chamber enveloping each bearing and maintaining a volume of oil with an oil-air interface in communication with a volume of air, and an oil circulation system in flow communication with each bearing chamber for supplying a flow of oil to a bearing chamber inlet and for evacuating spent oil from an outlet of the bearing chamber. The method involves sealing each bearing chamber with a hydropad seal between the shaft and bearing chamber. The hydropad seal having an annular ring mounted to the shaft and an annular pad mounted to the chamber, each having abutting seal surfaces. During engine operation the ring rotates to cast oil radially outwardly from the shaft axis toward the outer periphery of the bearing chamber under centrifugal force. Oil is then collected from the outer periphery of the bearing chamber and directed to the bearing chamber outlet.